ABSTRACT

The present invention provides an efficient and flexible arrangement for quickly combining a number of data packets to fit into a transmission interval. A current communications condition, e.g., the current channel quality, is detected and used to select an appropriate combination of modulation and channel encoding parameters. However, data packets are combined and pre-encoded before the modulation and/or coding scheme (MCS) to be used in a specific transmission interval is known. Once the MCS is known for the transmission interval, an appropriate number of pre-processed data blocks are combined. Using the present invention, some complex packet processing operations can be performed in advance, without any knowledge of the MCS. Another advantage of a preferred implementation of the invention is that the block size of the channel encoder is increased because several data packets are combined before encoding. A large block size improves the performance of many types of channel encoder structures. Further, acknowledgement/negative-acknowledgement signals may be sent for groups of data packets rather than for individual data packets, thereby reducing the amount of required control signaling and simplifying soft combining in the receiver.